REMARKS

Claims 1, 3-4, 9 and 12-13 were examined in the Final Office Action mailed December 26, 2008. The following rejections are pending:

- Rejection of claims 1, 3-4, 9 and 13-14 [sic, 12-13] under 35 U.S.C. § 112, second paragraph, as indefinite for use of both "consisting" and "comprises" in claim 1.
- Rejection of claims 1 and 9 under 35 U.S.C. § 103(a) as unpatentable over European Patent Publication No. EP 1 022 087 A2 ("Herrmann") (corresponding to U.S. Patent Publication No. US 2004/0094522 A1), in view of U.S. Patent No. 6,040,550 to Chang ("Chang").
- Rejection of claims 3-4 under § 103(a) as unpatentable over Hermann and Chang, in further view of Japanese Laid-Open Patent Application No. 10-296472 ("Goto").
- Rejection of claims 12-13 under § 103(a) as unpatentable over Hermann, Chang and Goto, in further view of U.S. Patent No. 6,399,915 to Mori ("Mori").

In response to the § 112 rejection, the Applicant is requesting entry of an amendment to claim 1 to remove the "comprises" language. The Applicant submits that this amendment may be entered without further search, either to place the claims in condition for allowance, or to place them in better form for appeal.

In response to the new grounds of rejection, the Applicants note the following.

It is maintained in the pending Office Action that Herrmann teaches that "the process gas *may* contain helium or argon." December 26, 2008 Final Office Action at 2 (emphasis added). In fact, the Herrmann reference teaches that its invention *must* contain helium for laser welding, *i.e.*, that it is not possible to laser weld without helium to effectively control the plasma at the weld site (and

consistent with this teaching, *none* of the gas mixtures discussed in the Herrmann reference is a process gas without helium). *See, e.g.*, Herrmann ¶ [0011] (corresponding U.S. publication ¶ [0011]) ("Tests have demonstrated that even just a relatively low helium content on the order of 25% by vol. (for example, ±10%) usually suffices for an effective plasma control.").

Herrmann further states that "[i]t is crucial for [Herrmann's] invention that the process gas exhibit, besides an inert gas content, also an active gas content." Herrmann ¶ [0009] (corresponding U.S. publication ¶ [0010]). Accordingly, Herrmann teaches the use of carbon dioxide in the process gas. Herrmann ¶ [0008] (corresponding U.S. publication ¶ [0009]) ("The invention solves this problem in that the process gas contains between 5 and 50% by vol. helium and, besides nitrogen, at least carbon dioxide with a content of 1 to 40% by vol.").

In the invention recited in claim 1, helium is *excluded* from the process gas (as amended, claim 1 would be clarified to recite, consistent with the preamble, that the process gas "consists of," rather than "comprises" the recited gas mixtures). As noted in the Applicant's April 9, 2008 response at 5-6, the claims are limited in scope to the specified materials, and excludes materials which can "materially affect the basic and novel characteristic(s) of the claimed invention." There should be no question that helium's interaction with a laser welding environment, in particular the welding plasma, can have a profound effect on the welding process – indeed, as Herrmann teaches, it was believed to be a necessary process gas component to provide a satisfactory plasma environment.

As a material which was known to so "materially affect the basic and novel characteristic(s) of the claimed invention" that helium's use was believed required for laser welding (as evidenced by the Herrmann's reference's teachings), the Applicant's determination that helium could be *eliminated* from laser welding process gases while still obtaining satisfactory laser welds in *non-ferrous* materials was a break-through – a non-obvious development in the laser welding arts. Because this surprising result has allowed the elimination of helium from non-ferrous welding processes, it has enabled significant production welding process cost savings (helium being a relatively high cost gas).

Because the combination of Herrmann and any/all of the remaining Chang, Goto and/or Mori references would result in a process gas containing helium, no combination of these references can result in claim 1's process gas for a non-ferrous laser welding process which excludes helium. Accordingly, reconsideration of the pending rejections based on the Herrmann reference is respectfully requested.

CONCLUSION

In view of the foregoing, the Applicant submits that upon entry of the amendment to claim 1 to address the § 112 issue, claims 1, 3-4, 9 and 12-13 will be in condition for allowance. Entry of the amendment and issuance of a Notice of Allowance for these claims is respectfully requested.

If there are any questions regarding this amendment or the application in general, a telephone call to the undersigned would be appreciated since this should expedite the prosecution of the application for all concerned.

If necessary to effect a timely response, this paper should be considered as a petition for an Extension of Time sufficient to effect a timely response, and please charge any deficiency in fees or credit any overpayments to Deposit Account No. 05-1323 (Docket #038724.52699US).

Respectfully submitted,

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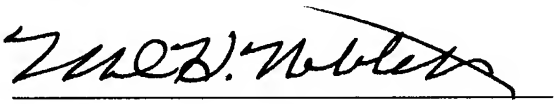

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